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ABSTRACT

This guide is designed to help both novices and "sophisticates" in educational computing to gather the information and materials they need to plan, implement, and evaluate computer-based school programs. Starting with a glossary of technical terms and ending with an extensive bibliography, the guide gives information about the major periodicals in the field, lists a number of evaluation tools for both software and hardware, and provides information about the state contract vendors of microcomputing equipment and supplies. Other sections list the names and addresses of resource people in the state, including county, regional, and central office staff; user groups; school district cooperatives; institutions that offer inservice training; and suggested course outlines for those districts that prefer to conduct their own inservice programs. Another major section contains the names, addresses, and telephone numbers of all major--and many minor--producers of microcomputing equipment and supplies; the current listing contains almost 200 manufacturers. Designed to serve as a "Yellow Pages" for educators looking for information about microcomputing in school settings, this guide will be kept up to date by the publication of changes in NewsCLIPS, the newsletter of the New Jersey Educational Technology Unit. Additions and changes solicited from the users of the guide will be published in the same manner. (JB)

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# NEW JERSEY DEPARTMENT OF EDUCATION

# EDUCATIONAL COMPUTING IN NEW JERSEY: A RESOURCE GUIDE

IR 011871

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# EDUCATIONAL COMPUTING IN NEW JERSEY:
# A RESOURCE GUIDE


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New Jersey State Department of Education
225 West State Street
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April, 1984

PTM 400.06

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225 WEST STATE STREET
TRENTON, N.J

OFFICE OF THE COMMISSIONER

May 4, 1984

Dear Colleagues:

For many years now we have been hearing about the coming "Computer Revolution" and how computers will affect our teachers and our students. Statistics available nationwide and in New Jersey indicate that it has already happened! The National Center for Education Statistics has found that American schools had access to more than 96,000 microcomputers and 24,000 terminals during the 1982-83 school year. This represents an increase of more than 100 percent over the preceding year and all indications are that the growth rate is accelerating.

In New Jersey, more than 95 percent of the school districts which responded to a Department of Education survey indicated that they have microcomputers and are engaged in some kind of educational program using computers. The 5 percent that do not now have computers are planning to acquire them in the near future. Thus, it is clear that the age of the computer has arrived.

To meet this dramatic technological change, educators need timely, relevant and helpful information. Accordingly, this resource guide was developed to help educators gather the information and materials they need to plan, implement and evaluate computer-based school programs. It identifies people, companies, materials and books that can help educators make informed decisions regarding the educational use of computers.

We hope that you find the resource guide informative and useful. It will be updated periodically through NewsCLIPS, the newsletter of the Educational Technology Unit, Division of General Academic Education. Please let us know of any additions, deletions or changes that you would like to see in the guide.

Sincerely,

Saul Cooperman
Commissioner

SC/TS/dm/NT1-11-1

# Acknowledgements

The manuscript was reviewed by a number of people in the Division of General Academic Education and by Dr. Henry Petersen of the Wayne School District and Dr. Leonard Coplein of Haddon Township School District. Thanks go to these creative professionals for their contributions of ideas, assistance and constructive criticism.

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# Introduction

This resource guide contains material that will help both novices and "sophisticates" in educational computing. Starting with a glossary of technical terms and ending with an extensive bibliography, the guide gives information about the major periodicals in the field, lists a number of evaluation tools for both software and hardware, and provides information about the state contract vendors of microcomputing equipment and supplies.

Other sections list the names and addresses of resource people in the state, including county, regional and central office staff; users groups; school district cooperatives; institutions that offer in-service training; and suggested course outlines for those districts that would rather conduct their own in-service training.

Another major section contains the names, addresses and telephone numbers of all major -- and many minor -- producers of microcomputing equipment and supplies. At present, this listing contains almost 200 manufacturers.

The guide is designed to serve as a "Yellow Pages" for educators looking for information about microcomputing in school settings. It will be kept up-to-date by the publication of changes in NewsCLIPS, the newsletter of the Educational Technology Unit. Additions and changes solicited from the users of the guide will be published in the same manner.

Please fill out the evaluation form on the last page of this guide. We depend on your comments for update information and for ways to improve the guide.

# Glossary of Terms

A comprehensive glossary covering the use of computers in education could take many pages. The terms presented here will allow you to converse with the sales representatives trying to sell you their products.

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Accessories: Items which add to the utility or convenience of the computer; eg. a printer or disk drive. See PERIPHERAL.

Acoustic Coupler: A type of MODEM that allows the use of an ordinary telephone handset for computer-to-computer communication. See MODEM.

Address: A numerical reference to the location in the computer's memory where a piece of informaton is stored.

Algorithm: A set of rules for the solution of a problem. A programmer uses an algorithm to aid in the development of a program.

Alphanumeric: A character that is either a letter (A-Z) or a numeral (0-9).

Application Program: A program designed to do a specific task. A checkbook balancing program is one example.

Array: A list of numbers, letters or words. Each individual member of the list is called an element and can be referenced by its position in the list.

ASCII: An acronym for the "American Standard Code for Information Interchange." All computers use some numerical representation for letters, numerals and other characters. ASCII has become the standard code for all microcomputers.

Assembler: A program that translates the computer's NATIVE LANGUAGE into a more convenient form for humans.

Assembly Language: A language that is similar to the computer's NATIVE LANGUAGE, but more convenient for human programmers.

BASIC: An acronym for the "Beginner's All-Purpose Symbolic Interaction Code." It is the language that is present in all microcomputers, in some form. The "dialects" in the various machines are just different enough to cause a low-grade frustration. Like all acronyms, BASIC is always written in capital letters.

**Back-up:** A verb, usually means to make a copy of the program in case of damage to the original. All programs should be backed up for archival purposes.

**Baud:** A term used to describe the speed of the transmission of data from the computer to another device. Usually, one baud is considered to be one "bit" per second. See BIT.

**Binary:** A numeric system that has only two numbers, 0 and 1. Sometimes it is referred to as a "base 2" system. The computer uses this system in its NATIVE LANGUAGE because the numbers 0 and 1 are accurate representations of the only two states that a machine can "know" - off or on. Fortunately for humans, all microcomputers come with "translators" that allow the computer and the human to speak to each other using a restricted English vocabularly. See BASIC.

**Bit:** The smallest unit that the computer can work with. It is sort of an acronym for BInary digiT. Sometimes it is in all capitals, sometimes not. A bit has the value of 0 or 1, depending on whether a given address is "on" or "off." See ADDRESS.

**Boot:** The process of turning on the computer, derived from the term "bootstrap." When a computer is "booted," the computer's OPERATING SYSTEM is LOADED into MEMORY. See LOADED, MEMORY, OPERATING SYSTEM.

**Branch:** The act of departing from the sequence of instructions provided in the PROGRAM. This follows an instruction that tells the computer to continue on if the INPUT is one value but to "jump" to another portion of the PROGRAM if the INPUT is another value. See INPUT, PROGRAM.

**Buffer:** A portion of the MEMORY that is set aside to hold information until the computer is ready to process it.

**Bug:** An error, usually in a PROGRAM. Bugs in the hardware are usually caught in the factory. "Debugging" is the process programmers go through to make their programs perform as specified.

**Byte:** A piece of information in the computer's MEMORY. On most micros a byte is eight bits long, but some of the newer machines have a 16-bit byte. One byte can usually store one alphanumeric, or some other special character.

**CAI:** An acronym for Computer-Assisted Instruction. It is the method of teaching in which material is presented under computer control, student responses are processed, and feedback is provided to the student.

**CMI:** An acronym for Computer-Managed Instruction. The computer is used as a management tool in the classroom. It maintains student records, selects learning materials based on the evaluation of tests, and helps schedule activities.

**CPU:** An acronym for Central Processing Unit. In reality, a very small portion of the MICROPROCESSOR CHIP that controls the MEMORY and any PERIPHERALS. See CHIP, MEMORY, MICROPROCESSOR, AND PERIPHERAL.

CRT: An acronym for Cathode Ray Tube. In actual practice, any television-like screen. To get real fancy, use VDT. (Video Display Terminal).

Chip: Usually a very small piece of silicon (typically no bigger than a fingernail) into which has been formed a circuit of varying complexity. Some chips contain almost a million components. This is called microminia/turization. These circuits are called Integrated Circuits (IC). Circuits increase in complexity and number of components in the following scale: Large-scale Integrated Circuits (LSIC), Very Large-Scale Integrated Circuits (VLSIC), and Ultra Large-Scale Integrated Circuits (ULSIC). It is predicted that soon the ULSIC will be able to contain many millions of components on a chip no larger than your fingernail.

COBOL: An acronym for Common Business-Oriented Language. It is probably the most widely-used computer language. Most data processing is done by business and industry and the language of choice for these shops is COBOL.

Code: Instructions written in a language understood by the computer.

Command: A request to the computer that is carried out (executed) immediately. Examples are RUN, LIST, NEW, etc.

Compiler: A program that translates one computer language into another, usually a high-level language (BASIC, Pascal, LOGO) into the computer's NATIVE LANGUAGE. See NATIVE LANGUAGE.

Computer: Any machine that is able to receive and follow instructions to manipulate alphanumeric information that is stored in its memory. Caution - if the instructions cannot be changed, it is not a computer!

Concatenation: A great computer word! It is the process of joining two or more STRINGS together, eg., APPLE + SAUCE to get APPLESAUCE.

Core Memory: That part of the memory that is considered "main memory." Sometimes, when referring to microcomputers, it is called "on-board memory." In reality, it is the memory that is inside the little box called the microcomputer.

Crash: What happens when you sit down at the computer and press the wrong key. The program stops and just sits there (HANGS) or strange things fly across the screen. Sometimes a less than helpful error message appears (Error 43, Syntax Error, or some such message). Most good programmers can make their programs virtually "crash-proof."

Cursor: The symbol or indicator (usually flashing on and off) that tells you where the next character that you type will go on the screen.

Cyberphobia: A brand new word, meaning a morbid fear of computers.

DOS: An acronym for Disk Operating System. It is a group of PROGRAMS that allow for the use of a disk drive.

Data: Information of any kind; for computers, data are the formalized representation of information.

Database: A large collection of interrelated data, stored together with a minimum of redundant items and accessible by the computer for many applications.

Debugging: The process of finding (and fixing) BUGS. See BUGs.

Default: The condition assumed unless instructed otherwise. As in "The default value of the size of the left margin is 1 inch." Most application programs have preset defaults that can be changed by the user.

Digital: Refers both to computers and data. In essence, it refers to the representation of information in a collection of BITs. Computers that can "understand" such information are styled as "digital" computers.

Disk: (Disc) A curricular piece of material that is covered with a magnetic coating much like recording tape. DIGITAL information can be stored on a disk and quickly played into a computer's memory.

Diskette: a small disk, stored in a square plastic envelope either 5.25 or 8 inches square, used in computing. Also called a FLOPPY Disk, because it is not rigid.

Disk Drive: A device that "plays" disks; that is, copies information from the computer and records it on the disk (stores it) or takes information from the disk and copies it into the computer (retrieves it).

Documentation: The necessary last step in program writing. It lets non-programmers know what the program is supposed to do, when it is supposed to do it, how the person at the keyboard is supposed to respond, what to do if the program CRASHes or HANGS (see CRASH, HANG), what the screen is supposed to look like, and other such instructions that the programmer would like to deliver.

Download: The process of loading your computer with the contents of another computer, usually through the means of a MODEM and the telephone lines. See UPLOAD.

Down-time: The time when the computer is inoperative due to some kind of malfunction. See GLITCH.

Drill and Practice: A program in which the student is presented with a structured set of exercise questions designed to give practice in a designated subject area.

Execute: For the computer to do what the program specifies; to run a program or a portion of a program.

File: A set of RECORDs. See RECORD.

**Flow Chart:** A visual representation of the steps in a program.

**ForTran:** A computer language used in scientific circles. The name is derived from the words Formula Translation. It usually appears as Fortran.

**Frame:** A single screen in a TUTORIAL sequence. It usually consists of some narrative, followed by a question, with the computer processing the student's response and proceeding to the next appropriate frame. See TUTORIAL.

**GIGO:** The acronym for the universal warning to all who use computers: "Garbage In, Garbage Out."

**Glitch:** A burst of electronic "noise" that causes strange things to happen with the computer. Sometimes a BUG is called a GLITCH. It is always an unwanted happening.

**Graphics:** This term refers to the presentation on the screen of something other than alphanumeric characters. The usual form is that of pictures, maps, charts, and graphs.

**Hard Copy:** Information that is printed on paper. Distinguishes printed information from the information appearing on the screen.

**Hardware:** The physical machinery: Computer, disk drive, printer, CRT, etc.

**IC:** Integrated Circuit. See CHIP

**I/O:** An acronym for Input/Output. Any operation that requires the computer to read some data and then produce a report of that data is called an "I/O" operation.

**Increment:** To add a set amount to a variable. Unless specified, it means to add one. For example, if X = 23, then to increment X would be to make X = 24.

**Initialize:** To set the starting conditions in a program. Disks are also initialized (sometimes called "init-ing a disk") to allow them to be used by a specific computer.

**Input:** Information arriving at a device. Caution: one device's output is usually another's input - even though it is the same information. For instance, what I'm typing in right now is the computer's input. In a few moments it will become input for the disk drive. Then the output from the disk drive will become input for the printer. What you are reading is the output from the printer, and it has become your input.

**Interactive:** A type of program that responds quickly to the user's input. Most of the programs written for the microcomputer are interactive.

Interface: In general, a situation where two different entities, like a person and a computer, attempt to communicate. In computer terms, it refers to a situation where the computer must communicate with a PERIPHERAL like a printer or disk drive. Also refers to the box of electronics that allows such communication to take place.

K: A very confusing abbreviation in computerese. It stands for "Kilo," the metric prefix meaning 1000, however, computers count in the base 2 system (See BINARY). 2 to the 10th power is 1024, so K in computertalk stands for the quantity 1024. It is usually used in connection with the size of a computer's memory. A 32K machine has the capacity to store 32 times 1024 (32,768) BYTES of information.

Load: The process of putting a program into the computer's memory, usually from a disk or tape.

Log on: The process of identifying yourself to the computer so as to be able to use the system. The process usually consists of keying in a password or codeword.

LOGO: A computer language and associated programs that are now being used with many children, sometimes at the kindergarten level. It is a highly INTERACTIVE language, and can be used in a GRAPHICS mode with the Turtle as its main character. Developed at MIT by a group of scientists interested in the field of artificial intelligence.

Loop: A programming technique that allows a set of instructions to be repeated a number of times.

Machine Language: The NATIVE LANGUAGE of the computer. It consists wholly of zeroes (0) and ones (1). See BINARY.

Main Frame: Usually means a large computer such as the IBM 370. The computer world has been divided into three memory sizes: micros, minis, and mainframes. This is not a very meaningful division these days, given the large memory sizes now available on most microcomputers. A more meaningful distinction might be that a mainframe computer is usually used by many people at the same time and is capable of doing many tasks simultaneously.

Menu: A list of options presented on the screen, from which the user can choose.

Microcomputer: A small computer. It is usually used by one person at a time to do one task. It operates in a highly INTERACTIVE mode. Sometimes called a PERSONAL computer.

Microprocessor: The small silicon CHIP that is imprinted with the entire CPU and memory control circuits of the microcomputer. See CHIP.

Minicomputer: A computer that is too big to be a micro and too small to be a mainframe. It can usually support more than a single task.

Modem: An abbreviated form of "MOdulator-DEModulator." It is the box of electronics that converts the computer's language into sounds that can be sent over telephone lines, and, on the other end, converts the sounds back into computer language.

Monitor: A fancy name for the television screen attached to the computer. See CRT. Designed to connect to a video-tape machine or computer, usually gives a higher quality image than an ordinary T.V. receiver.

Native Language: The language that the computer was built to understand. See MACHINE LANGUAGE.

Network: An interconnection of a number of computers by communication facilities, usually for the purpose of sharing programs and peripherals.

Number Crunching: One of the operations which the computer does very well. It usually consists of long, very complicated computations.

Off-Line: Equipment or information that is not directly accessible by the computer. Data stored on disk that must be loaded into main memory are said to be "off-line."

On-Line: Opposite of off-line. See above. Data stored in main memory are said to be on-line.

Optical Character Recognition (OCR): The process by which the computer can "read" typewritten pages.

Optical Mark Reader: The process by which the computer can "read" the presence of a black mark at predetermined places on a sheet of paper or card.

OS: Acronym for Operating System. It is a set of programs that is supposed to help a human to control the computer. It is sometimes referred to as the "man-machine interface."

Pascal: A highly structured computer language. Some think it is the "language of the future" for microcomputers, others disagree.

Peripheral: A device that can be connected to a computer and send or receive informaton. See ACCESSORY.

Personal Computer: A general purpose microcomputer that is inexpensive enough to be owned by many people.

PILOT: A computer language that was developed mainly to help teachers write educational programs. It allows programs to incorporate sound and graphics in a highly interactive mode, using only a few programming commands.

Pixel: An abbreviation for "picture element." It is one point on the CRT screen. The size of the point depends on the GRAPHICS mode being used.

Port: The place where a PERIPHERAL connects to the computer.

Program: A set of instructions that the computer follows in sequence. It must be written in a language that the computer can recognize and understand.

Prompt: A symbol that appears on the screen to signal the user that the computer is ready to receive input. The usual prompts are the word "READY" or "?".

RAM: An acronym for Random-Access Memory. It is the main memory of the computer, the on-board memory, the memory to which the "K" number refers, as in "48K of memory." It is the working memory where calculations are done, words are processed, and where data are based. It is "volatile" memory, which means that anything stored there will be lost when the machine is turned off.

Record: Pieces of information that are somehow related, as in a Personnel Record.

Remote: Equipment that is located at a distance that is connected to the computer, usually over the telephone lines.

ROM: Acronym for Read-Only Memory. This is the memory that contains the Operating System (OS), the languages, and the various translators of the computer. The operator cannot manipulate ROM, and it is not "volatile."

Scroll: To move all the text on the screen to make room for more information. The usual convention is that the information appears at the bottom of the screen and moves upwards one line at a time as new information is printed. Eventually the first line disappears under the mask at the top of the screen.

Simulation: A computer program that "models" some section of reality. Sometimes this is done using a mathematical model, sometimes a descriptive model. This allows the student to play "what if", thereby testing different hypotheses.

Software: A term used to refer to computer programs. Software that is basically educational in nature is sometimes referred to as "courseware."

String: A set of numbers, letters and/or characters that are treated as a single entity for purposes of computer operations.

Systems Analysis: The process of analyzing existing systems for the purpose of improving them, usually through the use of computers and the automating of some or all of the components of that system.

Terminal: A device used to communicate with the computer. It usually consists of a keyboard and a screen, but may also contain a printer.

Timesharing: A method of operation by which many users share one large computer and its associated PERIPHERALS.

Tutorial: The method of presenting educational material FRAME by frame. The material is presented in narrative form with questions being asked at the end of each frame. See FRAME.

Upload: The act of transferring the contents of a computer into the memory of another computer, usually through the medium of a MODEM and the telephone lines. See DOWNLOAD.

Users Groups: An informal group of computer owners with similar machines. They are formed to exchange ideas and programs and to help each other solve problems encountered in using the computers.

Variable: A name given to a quantity. In the expression "X=2," the variable is named "X" and the quantity is 2.

Word Processing: The use of the computer as an automated typewriter. Documents can be created, edited, stored, retrieved and printed with great ease.

# Places To Go for Help

The following section lists places to go for help. This assistance is available to any school teacher or district. Included are professional associations, users groups, resource people in the state, institutions of higher education in the state that offer programs about computing, and sources of funds for special projects involving the use of computers in education.

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National Professional Organizations

American Educational Research Association (AERA)
1230 17th Street, NW
Washington, D.C. 20036
(202) 223-9845

Association for Computing Machinery (ACM)
11 West 42nd Street
New York, New York 10036
(212) 869-7440

Association for the Development of Computer-Based Instructional Systems (ADCIS)
409 Miller Hall
Western Washington University
Bellingham, Washington 98225
(206) 676-2860

Association for Educational Communication and Technology (AECT)
1126 16th Street, NW
Washington, D.C. 20036
(202) 833-4180

Association for Educational Data Systems (AEDS)
1201 16th Street, NW
Washington, D.C. 20036
(202) 82207845

Computing Using Educators
CUE
P.O. Box 18547
San Jose, CA 95158

International Council for Computers in Education (ICCE)
Department of Computer and Information Science
University of Oregon
Eugene, OR 97403
(503) 686-4414

National Association of Elementary School Principals (NAESP)
1801 North Moore Street
Arlington, Virginia 22209
(703) 860-0200

National Audio-Visual Association (NAVA)
3150 Spring Street
Fairfax, Virginia 22031
(703) 620-9840

National Council of Teachers of Mathematics (NCTM)
1906 Association Drive
Reston, Virginia 22091
(703) 347-0055

* In addition, many of the state associations in the various curriculum areas have special interest groups concerned with computer uses.

Users Groups (by Microcomputer) - A users group is an informal organization of people who own or use the same kind of microcomputer. It is formed to exchange ideas and programs and to provide help in solving some of the problems encountered in using computers.

APPLE:

Amateur Computer Club of New Jersey
c/o Varian Instrument Group
25 Hanover Road
Florham Park, New Jersey 07932

Apple Group of New Jersey
c/o Steve Toth, President
1411 Greenwood Drive
Piscataway, New Jersey 18854

The Ewing Apple Users Group
c/o Rita Eldridge, President
828 River Road
Trenton, New Jersey 08628

Monmouth Apple Corps
c/o H.C. Logan, President
193 Stillwells Corner Road
Freehold, New Jersey 07728

Princeton Apple Group
P.O. Box 413
Rocky Hill, New Jersey 08553

Short Hills Apple Pits
c/o Steve Bloch, President
29 Clive Hills Road
Short Hills, New Jersey 07078

Southern New Jersey Apple Group
c/o Larry Margulis, President
106 Ashbrook Road
Cherry Hill, New Jersey 08034

The Apple Synapse
c/o David Bostain, President
1050 George Street, 5-0
New Brunswick, New Jersey 08901

ATARI:

Amateur Computer Club of New Jersey
c/o Russell Gorr
1776 Raritan Road
Scotch Plains, New Jersey 07076
(201) 469-5993

Bergen County Atari Users Group
c/o David Geller, President
761 Wendel Place
Teaneck, New Jersey 07666
(201) 692-1669

Computer Workshop Atari Users' Group
c/o Bob Applegate
1200 Haddonfield Road
Cherry Hill, New Jersey 08002
(609) 665-4404

Jersey Atari Computer Group
c/o Dick Kushner, President
58 Dewey Avenue
High Bridge, New Jersey 08829
(201) 582-4794

Micro of Monmouth and Middlesex Computer Club
Atari Computer Group
Barry Joseph, Librarian
10 Sherwood Road
Englishtown, New Jersey 07726

Northern New Jersey Atari Computer Group
c/o Ken Roser, President
1907 Arbor Lane
Union, New Jersey 07083
(201) 688-3546

The Teaneck Atari Computer Users Group
c/o Mark Hirmes, President
331 DeMott Avenue
Teaneck, New Jersey 07666
(201) 836-2222

COMMODORE:

Amateur Computer Group of New Jersey
c/o John Loofborrow
UCTI
1776 Raritan Road
Scotch Plains, New Jersey 07076
(201) 233-7068

Somerset Users' Group
c/o Robert Holzer
49 Marcy Street
Somerset, New Jersey 08873

RADIO SHACK:

Delaware Valley Computer Society
P.O. Box 651
Levittown, Pennsylvania 19058

TEXAS INSTRUMENT:

Northeast TI 99/4A Users Group
c/o Daniel Cooper
P.O. Box 285
Hazelton, Pennsylvania 18201
(717) 454-0323

OTHERS:

Personna, National Association for the Users of the IBM PC
P.O. Box 759
Point Pleasant, New Jersey 08742

OSI Users Group
c/o Bob Childs
4 Swimming River Road
Lindcroft, New Jersey 07738
(201) 747-8888

Local Resources

New Jersey State Department of Education Contacts

County Level:
(All contact people on this list are located at the respective county office of education)

| County | Name | Phone |
|---|---|---|
| Atlantic | Dee Hursey | (609) 625-7000 |
| Bergen | Carolyn Spurlock | (201) 935-1500 |
| Burlington | Mike Baltish | (609) 261-5060 |
| Camden | Joe Corcoran | (609) 757-8987 |
| Cape May | Betty Zaleski | (609) 465-7911 |
| Cumberland | Jean Nocon | (609) 451-8000 |
| Essex | | (201) 673-3900 |
| Gloucester | Glenn Earl | (609) 468-6500 |
| Hudson | Monica Tone | (201) 795-6547 |
| Hunterdon | Frank Arch | (201) 788-1414 |
| Mercer | Vince Acquaviva | (609) 989-6677 |
| Middlesex | Jack Coogan | (201) 390-6000 |
| Monmouth | Mike Maddaluna | (201) 431-7810 |

| County | Name | Phone |
|---|---|---|
| Morris | Doris Smith | (201) 285-6151 |
| Ocean | Shirley Adams | (201) 929-2078 |
| Passaic | John Zeug | (201) 881-7123 |
| Salem | June Lang | (609) 769-2700 |
| Somerset | Sal Abitano | (201) 231-7171 |
| Sussex | Judith Kohlbach | (201) 383-2521 |
| Union | Stan Rothman | (201) 233-9310 |
| Warren | Jane Gould | (201) 475-5361 |

* In addition to the county resources there are 3 Learning Resource Centers (LRC) that are available for assistance:

LRC North
(at Regional Curriculum Services Unit-North)
15 South Munn Avenue
East Orange, New Jersey 07817
(201) 672-3036

LRC Central
(at Regional Curriculum Services Unit-Central)
75 Racetrack Road
East Brunswick, New Jersey 08816
(201) 390-6030

LRC South
(at Educational Improvement Resource Center)
207 Delsea Drive
Route #47, Road 4
Box 209
Sewell, New Jersey 08080
(609) 228-6000

Regional Level:

* Assistance is available at the regional level also. Please try your county office before contacting the RCSU for help.

Regional Curriculum Service Unit - North
Stan Rabinowitz and Leslie Chambers
15 South Munn Avenue
East Orange, New Jersey 07107
(201) 672-3036

Regional Curriculum Service Unit - Central
Don Williams
75 Racetrack Road
East Brunswick, New Jersey 08816
(201) 390-6030

Regional Curriculum Service Unit - South
Alysa Cummings and Bill Cervini
Tanyard and Salina Roads
Sewell, New Jersey 08080
(609) 468-6500

State Level

Educational Technology Unit
Carol Scelza, Manager
225 West State Street
Trenton, New Jersey 08625
(609) 984-1805

Technology for Children
Sylvia Kaplan, Coordinator
225 West State Street
Trenton, New Jersey 08625
(609) 292-5720

Other Resources:

Asbury Park Computing Cooperative
c/o Bob Osgoodby
Asbury Park School District
1506 Park Avenue
Asbury Park, New Jersey 07712
(201) 774-0888
(Offers computing services to school districts)

Computers, Learners, Users Education Association (CLUES)
c/o Henry Petersen, Executive Director
50 Nellis Drive
Wayne, New Jersey 07470
(A professional organization for teachers)

Educational Improvement Resource Center (EIRC)
Richard Titus, Director
207 Delsea Drive
Route #47, Road 4
Box 209
Sewell, New Jersey 08080
(609) 228-6000

Network for Action in Microcomputer Education (NAME)
c/o Jim Jaeckel/Henry Peterson
Fallon Center
51 Clifford Drive
Wayne, New Jersey 07470
(201) 696-3157
(Technical aid, inservice training, information for educators)

New Jersey Educational Computer Network (NJECN)
3900 Park Avenue
Edison, New Jersey 08820
(201) 549-9700

New Jersey Vocational Education Resource Center
200 Old Matawan Road
Old Bridge, New Jersey 08857
(201) 390-1191
(A source of software and info about micros for teachers)

Southern New Jersey Computer Awareness Project
c/o Dr. Francis Masat
Glassboro State College
Department of Mathematics
Glassboro, New Jersey
(a computer project for teachers in South Jersey)

Wayne Computing Cooperative
c/o Henry Petersen
50 Nellis Drive
Wayne, New Jersey 07470
(A software clearinghouse, a source of MECC materials, and a library of general information)

Funding Sources

Association of Media Producers
1101 Connecticut Avenue, NW
Washington, D.C. 20036
(For information on how to apply for Federal block grant monies for educational technology)

Apple Education Foundation
20525 Mariani Avenue
Cupertino, California 95014
(408) 973-2105

Atari Institute for Educational Research
1265 Borregas Avenue
P.O. Box 427
Sunnyvale, California 94086
(408) 745-2666

The Foundation Center
888 Seventh Avenue
New York, New York 10106
(212) 975-1120

National Science Foundation
Washington, D.C. 20550
(202) 282-7930

Tandy TRS-80 Educational Grants Program
Education Division
400 Tandy Atrium
Fort Worth, Texas 76102

* (Information on available grant monies may also be available through your county office of education.)

# Teacher Proficiencies

How does a "computer literate" teacher differ from one who is not "computer literate?" What must you be able to do to warrant that title? Many claim to know, but few agree. Below are listed the proficiencies held to be important by researchers at the University of Illinois. It is one of the most extensive lists we could find. Rate yourself!

---

1. Familiarity with computerized teaching materials (i.e., instructional programs) in a variety of fields.

2. Ability to integrate computerized teaching materials into a course.

3. General knowledge of the functioning of CMI (computer-managed-instruction) systems.

4. Understanding of effective design of drill and practice materials.

5. Ability to apply computerized drill and practice in a variety of teaching situations.

6. Familiarity with computer simulations and models.

7. Experience in preliminary design and construction of a simulation.

8. Knowledge of the uses of simulations as teaching tools.

9. Ability to evaluate the effectiveness of a course that uses computerized teaching materials.

10. Ability to determine the computer needs of a school.

11. Ability to draft computer needs and desires of a school and to invite proposals/bids from potential suppliers.

12. Ability to assemble data about proposed equipment to facilitate decision-making (costs, performance data, hardware characteristics, software support, etc.).

13. Familiarity with instructional games.

14. Knowledge of how to use instructional games appropriately and effectively in teaching.

15. Physical familiarity with computer equipment, i.e., everyday operation and use of a range of different machines.

16. Knowledge of trouble-shooting procedures and means of access to professional help, i.e., knowing how to determine if a piece of equipment is ailing, and if it is, knowing whom to call to fix it.

17. Knowledge of sources for computer materials.

18. Knowledge of how to improve less than adequate instructional computer programs.

19. Ability to evaluate the effectiveness of instructional computer programs.

20. Ability to instruct others in the social role and impact of computers in society.

21. Knowledge of alternative uses of computers in schools, e.g., as class-record-keepers, term-paper-editors, etc.

22. Awareness of the value of involving students in the development of computerized instructional materials.

23. Ability to be highly critical of suppliers' proposals and their machines.

24. Knowledge of processes of involving students in instructional materials development.

25. Computer programming expertise.

# Inservice Training

A major concern of educators confronted with the emerging technologies is that they feel inadequately prepared to use them effectively. There are many models for delivering in-service training and many opportunities exist. This section lists post-secondary institutions that offer courses in computer-related topics, as well as some suggested topics that could be used in an in-service program of your own.

**2-Year Programs**

| BERGEN | BROOKDALE | BURLINGTON | CAMDEN | CENTENARY | CUMBERLAND | ESSEX | GLOUCESTER | HUDSON | MERCER | MIDDLESEX | MONMOUTH | OCEAN | PASSAIC | ST. PETER'S | SALEM | SOMERSET | UNION | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A-D | A-D | A | A | A-D | A-D | A-D | | | | | A-D | A | C | | | Data Processing Technologies |
| A | A-C | | | | | A-D | A | | A-D | A-D | A-C | A | | | D | A | A | Computer Programming Technologies |
| | | | | | D | | | | C-D | | | | | | | | | Computer Operator Technologies |
| C | | C | | | | | | | C | C | | | | A | | | | Computer/Information Sciences |

A = Associate Degree C = Concentration D = Diploma/Certificate

**4-Year Programs**

| BLOOMFIELD | CENTENARY | FAIRLEIGH DICKINSON | GEORGIAN COURT | GLASSBORO | JERSEY CITY | KEAN | MONMOUTH | NEWARK | NEW JERSEY INSTITUTE OF TECHNOLOGY | RAMAPO | RUTGERS | STEVENS | SETON HALL | STOCKTON | TRENTON | UPSALA | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-C | | B | | B | B-C | B | B-D | B | B | C | B-C | B-C | B | C | B | C | C | Computer/Information Technologies |
| | | | | | | C | | | | | | C-D | | | | | | Data Processing |
| C | | | | | | | | | | | | D | | | C | | | Information Science |
| C | | | C | | | | | | | | | D | | B | C | | | Systems Analysis/Programming |
| | | | | | | C | | | | | | | | | | | | Computer Science |

B = Baccalaureate C = Concentration D = Diploma/Certificate

Suggested Topics for In-service Training:

A. Introduction to Computers

1. Capabilities
2. History
3. Changes Since 1946

B. "You Gotta Know the Territory"

1. Hardware Jargon
2. Software Jargon

C. How to Use and Operate Micros

1. Major Components
2. Hook-up
3. "Booting"
4. Application Programs for Education

a. CAI
- drill and practice
- tutorial
- simulation
- games
- logic/problem-solving

b. CMI

c. Administrative Uses

- classroom (database, word processing and spreadsheet)
- school (guidance, student information, scheduling, grade reporting, library systems, etc.)

D. Evaluation of Systems

1. Hardware evaluation
2. Software evaluation

E. Programming Concepts

1. Flowcharting
2. LOGO
3. BASIC
4. Other languages

F. Impact of the "Computerization" of Society

1. Personal
2. Societal
3. Attitudinal

G. The future in School Computing and Technology

1. Interactive Video
2. Instruction Management Systems
3. Diagnostic/Prescriptive Instructional Systems
4. Networking
5. Regional and National Databases

Below is a brief outline of an in-service training module that was adapted from one used by the Minnesota Educational Computing Consortium. (MECC)

---

1. Historical Background of Instructional Computing
2. Operating a Personal Computer
3. Computer Demonstration Activity
4. Review of Locally Available Materials
5. How the Computer Works
6. Diskette Care
7. Copying Diskettes
8. Technical Jargon in Commercial Software Advertisements
9. Evaluating Computer Courseware
10. Sizing Up the Commercial Software Market
11. Instructional Strategies
12. Lesson Planning Activity
13. How Computing Fits Into the Curriculum
14. The Idea of Programming
15. Peripherals Demonstration
16. Programs That Make Life Easier and More Organized

# Evaluation Schema

Evaluation of hardware and software is a never-ending chore for the conscientious educator. It is also a highly personal matter. One teacher's "junk" might turn out to be another teacher's very effective piece of material. With that view in mind, we list below references to a number of different evaluation schemes, each one using different criteria. It is up to the individual educator to determine the method that best fits the need. Included is a set of questions, used by the Microcomputer Resource Center of Columbia University to evaluate software. Also included is a software evaluation form developed by Dr. Mary Humphrey at the Ontario Institute for Studies in Education.

---

DO YOUR OWN EVALUATIONS:

(A) Hardware

Billings, K. and Glass, S. "Adding a Micro to Your School Picture." Electronic Learning, January-February, 1982.

"Computer Buyer's Guide, Part 2." Popular Computing, August, 1982.

Creative Computing, September, 1981 (entire issue)

Fox, Tom "Personal Computers, Take Your Pick." Personal Computing April, 1981

"Personal Computers: Products for Every Need." Personal Computing May, 1981

Thornburg, David D. "How to Select a Personal Computer." Recreational Computing, July-August 1981

(B) Software

Berst, Jesse "The ABC's of Evaluating Packaged Software," Interface Age, February, 1981.

Center for Learning Technologies "Software Evaluation Form." New York State Education Department, Albany, New York 12230

Crawford, Chase "Questions to Ask Before Buying Administrative Software." School and Business Affairs, May, 1983.

Dennis, J. Richard (ed). Appendix to Vol. 5e, "The Illinois Series on Educational Applications of Computers." Urbana, Ill.: College of Education, University of Illinois, 1979.

MicroSIFT. Evaluators Guide. Portland, Ore.: NWREL, 1981.

Minnesota Educational Computing Consortium. Computer Courseware Review Form. MECC Instructional Systems Development.

"Software Evaluation Form." Electronic Learning, Oct., 1982.

READY-MADE SCHEMES: (Reviews of selected software packages)

California Library Media Consortium Reviews
San Mateo County Office Of Education
333 Main Street
Redwood City, California 94063

Courseware Report Card
Educational Insights
150 W. Carob Street
Compton, California 90220

DISC Project
Oakland Schools
2100 Pontiac Lake Road
Pontiac, MI 485054

EPIE Institute
Educational Products Information Exchange
P.O. Box 620
Stony Brook, NY 11790

Evaluations
Province of British Columbia
Ministry of Education
Education Media Centre
7351 Elmbridge Way
Richmond, BC Canada V6X 1B8

Journal of Courseware Review
Apple Computer
20525 Mariana Avenue
Cupertino, California 95014

MicroSIFT Reviews
MicroSIFT, NWREL
300 S.W. Sixth Avenue
Portland, OR 97204

Reference Manual for Instructional Use of Microcomputers
JEM Research
Discovery Park
University of Victoria
P.O. Box 1700
Victoria, British Columbia V8W 2Y2

School Microware Reviews
P.O. Box 246
Dresden, Maine 04342

SECTOR
Special Education Technical On-line Resources
Exceptional Child Center
Utah State University
Logan, Utah 84322

Software Reports
Allenbach Industries
2101 Las Palmas
Carlsbad, California 92008

Digest of Software Reviews: Education
1341 Bulldog Lane, Suite C
Fresno, California 93710

In addition, many of the periodicals listed in the next section publish reviews of both hardware and software.

MICROCOMPUTER RESOURCE CENTER
TEACHERS COLLEGE, COLUMBIA UNIVERSITY

## CRITERIA FOR EVALUATING SOFTWARE

* WHO IS SUPPOSED TO USE THE PROGRAM?

  - What is the age and/or grade range?
  - How will students be grouped?
  - What entry competencies will be required?

* HOW IS THE PROGRAM SUPPOSED TO BE USED?

  - What is the subject area?
  - Can the program stand alone, or is it for enrichment or remediation?
  - Does the programs approach include aspects of:
    - Drill and Practice
    - Tutorials
    - Simulation
    - Educational Games
    - Logic/Problem Solving
    - Tool Applications

* WHAT IS THE PROGRAM SUPPOSED TO DO?

  - What are the content topics?
  - What is the developers rationale?
  - Are there learner goals and objectives?
  - Is there development or field test evidence?

* IS THE PROGRAM APPROPRIATE FOR THE INTENDED USERS?

  - Does the content match the student ability levels?
  - Is the scope of the program sufficient?
  - Is the readability level appropriate?
  - Can the program be adapted for other purposes?

* IS THE PROGRAM ACCURATE AND FAIR?

  - Does the program contain factual errors?
  - Are there spelling, punctuation or grammar errors?
  - Is there a problem with social balance/stereotypes?
  - Could the content or methodology be considered controversial?

* HOW EFFECTIVE IS THE PRESENTATION OF THE CONTENT?

  - Are the directions clear?
  - Is the format effective?
  - Is the format consistent?
  - Are characters clear and well spaced?
  - Are examples and demonstrations used?
  - Are cues and prompts used?

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* IS THE PROGRAM WELL DESIGNED TECHNICALLY?

  - Are there programming errors?
  - Are there technical flaws?
  - Are there design flaws?
  - What does the warranty cover?

* HOW EFFECTIVE IS THE PROGRAM'S APPROACH?

  - Is the approach appropriate?
  - Does it enhance the presentation?

* IS THE DOCUMENTATION/TEACHER'S GUIDE WELL-DESIGNED AND USEFUL?

  - Are there instructional suggestions?
  - Does it help with curriculum integration?
  - Are the technical explanations clear and useful?
  - Does it provide for teacher training?
  - Are there support materials, are they essential?

* HOW MUCH CONTROL DOES THE PROGRAM GIVE THE STUDENTS?

  - Are there instructional choices/menus?
  - Can students review instructions?
  - Can the students stop the program at any point?
  - Can students control the rate of presentation?
  - Are there help or hint options?

* CAN THE TEACHER ALTER THE PROGRAM?

  - Can mastery/failure levels be set?
  - Can the number of problems presented be set?
  - Can content be added or changed?
  - Can branching be controlled?
  - Can you vary feedback?

* HOW DOES THE PROGRAM USE FEEDBACK?

  - Is it appropriate for the intended users?
  - Is it threatening/non-threatening?
  - Does it reinforce wrong responses?
  - Does it remediate?
  - Is it immediate?

* HOW DOES THE PROGRAM USE GRAPHICS?

  - Are they appropriate for the intended users?
  - Are they embedded in the content?
  - Are they distracting?
  - Are they clear?
  - Are there non-graphics options?

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* IS THERE AN AUDIO COMPONENT TO THE PROGRAM?

  - Does it enhance the program?
  - Can it be turned off via the software?

* IS RANDOM GENERATION USED?

  - In activities?
  - In feedback?

* DOES THE PROGRAM INCLUDE TESTS?

  - Placement tests
  - Pre-tests
  - Mastery tests
  - Off-computer tests
  - Do the tests measure mastery of the stated or implied goals and objectives?

* DOES THE PROGRAM INCLUDE BRANCHING?

  - For review?
  - After each lesson?
  - Through interaction?

* WHAT KIND OF RECORDKEEPING/MANAGEMENT SYSTEM DOES THE PROGRAM PROVIDE?

  - Can student data be stored, and retrieved at a later date?
  - Are specific difficulties identified?
  - How many student records can be stored?
  - Are the records cumulative?
  - Is the management system easy to use?
  - Is there an option not to use?
  - How are students informed of progress?

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# EDUCATIONAL SOFTWARE EVALUATION FORM

(PLEASE COPY AND USE FREELY)

## SOFTWARE INFORMATION (fill in or check which apply)

Program Title:

Company:

Price — cassette:
diskette:
package:

Address.

Computer Used:

Peripherals Needed or Used If Available:
- ☐ printer
- ☐ light pen
- ☐ joy stick/game paddle
- ☐ special interface
- ☐ other

Topic Area:
- ☐ math
- ☐ spelling
- ☐ reading
- ☐ language skills
- ☐ science
- ☐ social science
- ☐ computer literacy
- ☐ other

Educational Purpose:
- ☐ teaching lesson/tutorial
- ☐ drill/practice
- ☐ review
- ☐ testing
- ☐ simulation
- ☐ general skills
- ☐ record keeping
- ☐ educational game
- ☐ other

Suitable for Use:
- ☐ daily
- ☐ weekly
- ☐ continuous until mastery
- ☐ single lesson only

Usable by:
- ☐ groups
- ☐ individuals
- ☐ without teacher

Suitable Users:
- ☐ primary grade(s)
- ☐ junior grade(s)
- ☐ secondary grade(s)
- ☐ postsecondary
- ☐ special education
- ☐ teacher/other adult
- ☐ other

## GENERAL RATINGS (an overall evaluation — 1 = very poor, 2 = acceptable, 3 = very good, NA = not applicable)

A. Educational Value: B. Ease of Use: C. Effective Use of Computer:

COMMENTS: _____

## SPECIFIC RATINGS (1 = no, 2 = somewhat, 3 = yes, NA = not applicable)

### A. EDUCATIONAL VALUE

**Program Objectives:**

| | | | | |
|---|---|---|---|---|
| 1. Program meets an important or relevant educational need. | 1 | 2 | 3 | NA |
| 2. The content is suited to computer presentation. | 1 | 2 | 3 | NA |
| 3. Program is flexible enough for intended range of users. | 1 | 2 | 3 | NA |
| 4. Program can be used effectively within a classroom setting. | 1 | 2 | 3 | NA |
| 5. The type of program (e.g., simulation, drill and practice) is an appropriate format for the educational goal. | 1 | 2 | 3 | NA |

COMMENTS: _____

**Teaching Practices:**

| | | | | |
|---|---|---|---|---|
| 1. Important or new material is presented in a clear and interesting way. | 1 | 2 | 3 | NA |
| 2. New terms are defined or illustrated. | 1 | 2 | 3 | NA |
| 3. Student actively responds, rather than just watching a display. | 1 | 2 | 3 | NA |
| 4. Student corrects errors before continuing to new material. | 1 | 2 | 3 | NA |
| 5. Help routines for student are available when needed. | 1 | 2 | 3 | NA |
| 6. Program checks student answers to branch to new information, review old information, or adjust feedback. | 1 | 2 | 3 | NA |

COMMENTS: _____



Continued

**Program Packages:**

| | | | | |
|---|---|---|---|---|
| 1. Package contains a coherent set of programs. | 1 | 2 | 3 | NA |
| 2. Program packages follow a consistent progression of skills. | 1 | 2 | 3 | NA |
| 3. Each program in a package is distinct in providing new material or stressing different skills. | 1 | 2 | 3 | NA |
| 4. Instructions, response input, and feedback are consistent across programs within the package. | 1 | 2 | 3 | NA |

COMMENTS: _____

_____

**B. EASE OF USE**

**Instructions:**

| | | | | |
|---|---|---|---|---|
| 1. Teacher's documentation is clear and complete. | 1 | 2 | 3 | NA |
| 2. Written instructions for student are clear and complete. | 1 | 2 | 3 | NA |
| 3. Reading level, type font and display encourage reading of instructions. | 1 | 2 | 3 | NA |
| 4. Instructions can be bypassed when not needed. | 1 | 2 | 3 | NA |
| 5. Selection of program options is quick and simple. | 1 | 2 | 3 | NA |
| 6. Other useful resource materials (e.g., demonstration kits) are available for the teacher. | 1 | 2 | 3 | NA |

COMMENTS: _____

_____

**Response Input:**

| | | | | |
|---|---|---|---|---|
| 1. Number and complexity of required responses is appropriate for intended user. | 1 | 2 | 3 | NA |
| 2. Responses are input in a manner familiar to user (e.g., right to left for math computations). | 1 | 2 | 3 | NA |
| 3. Input errors can be changed or erased easily. | 1 | 2 | 3 | NA |
| 4. Inappropriate responses (e.g., letters instead of numbers) do not disrupt the program. | 1 | 2 | 3 | NA |
| 5. Student is prevented from listing the program to get answers. | 1 | 2 | 3 | NA |

COMMENTS: _____

_____

**C. EFFECTIVE USE OF COMPUTER**

**Display:**

| | | | | |
|---|---|---|---|---|
| 1. Program does something that is difficult to do without the computer (or cannot be done as well). | 1 | 2 | 3 | NA |
| 2. Displays are uncrowded and easily read. | 1 | 2 | 3 | NA |
| 3. Graphics and animation are helpful in illustrating or accenting information, not just used as decoration. | 1 | 2 | 3 | NA |
| 4. Displays have a consistent format for presenting information but are varied to add diversity to reinforcement. | 1 | 2 | 3 | NA |
| 5. Sound is used to accent important information or as a reinforcement, not as a distractor. | 1 | 2 | 3 | NA |

COMMENTS: _____

_____

**Pacing:**

| | | | | |
|---|---|---|---|---|
| 1. User advances at own speed (e.g., uses space bar or RETURN key to go on when ready), or the program advances at an appropriate speed. | 1 | 2 | 3 | NA |
| 2. Teachers can end program before its completion. | 1 | 2 | 3 | NA |
| 3. Student is prevented from advancing or leaving program to escape work. | 1 | 2 | 3 | NA |
| 4. Criteria for advancing to new lesson or difficulty level can be adjusted by teacher. | 1 | 2 | 3 | NA |

COMMENTS: _____

_____

**Feedback:**

| | | | | |
|---|---|---|---|---|
| 1. Amount and clarity of feedback is appropriate. | 1 | 2 | 3 | NA |
| 2. Feedback for correct responses is reinforcing. | 1 | 2 | 3 | NA |
| 3. Feedback for incorrect responses is helpful, not insulting or overly entertaining. | 1 | 2 | 3 | NA |
| 4. General feedback does not encourage speed at the expense of accuracy. | 1 | 2 | 3 | NA |
| 5. Useful summary feedback is provided at the end of program. | 1 | 2 | 3 | NA |

COMMENTS: _____

_____

# Periodicals

The periodicals listed below should be of interest to computer users. They deal with a wide spectrum of computer uses. Check your school and local library; your students are probably already reading these magazines! Those marked with an asterisk are especially good for educators.

---

AEDS Journal*
1201 Sixteenth Street, NW
Washington, D.C. 20036

AEDS Monitor*
1201 Sixteenth Street, NW
Washington, D.C. 20036

Apple Educators Newsletter*
9525 Lucerne Street
Ventura, California 93004

Arithmetic Teacher NCTM
1906 Association Drive
Reston, Virginia 22091

Byte Magazine
Box 590
Martinsville, New Jersey 08836

Classroom Computer News*
341 Mt. Auburn Street
Watertown, Massachusettes 02172

Compute!
The Journal for Progressive Computing
Box 5406
Greensboro, North Carolina 27403

Computer Literacy News*
HumRRO
300 N. Washington Street
Alexandria, Virginia 22314

Computing Teacher*
Department of Computer and Information Science
University of Oregon
Eugene, Oregon 97403

Creative Computing
Box 783
Morristown, New Jersey 07960

Curriculum Product Review*
Pitman Learning, Inc.
530 University Avenue
Palo Alto, California 94301

Educational Technology*
140 Sylvan Avenue
Englewood Cliffs, New Jersey 07632

ETC*
Subscription Department
Far West Regional Lab
1855 Folsom Street
San Francisco, California 94103

Electronic Education*
Suite 220
1311 Executive Center Drive
Tallahassee, Florida 32301

Electronic Learning*
Scholastic, Inc.
902 Sylvan Avenue
Box 2001
Englewood Cliffs, New Jersey 07632

INFOWORLD
530 Lytton Avenue
Palo Alto, California 94301

Instructional Innovator*
1126 Sixteenth Street, NW
Washington, C.C. 20036

Interface Age
P.O. Box 1234
Cerritos, California 90701

Kilobaud Microcomputing
10001001 Inc.
80 Pine Street
Peterborough, New Hampshire 03458

Learning Magazine*
Subscription Department
1255 Portland Place
Boulder, Colorado 80321

MACUL Journal*
Wayne County ISD
33500 Van Born Road
Wayne, Michigan 48184

Mathematics Teacher*
NCTM
1906 Association Drive
Reston, Virginia 22091

Media and Methods*
1511 Walnut Street
Philadelphia, Pennsylvania 19102

Microcomputers in Education*
Queue, Inc.
5 Chapel Hill Drive
Fairfield, Connecticut 06432

Microcomputing
P.O. Box 997
Farmingdale, New York 11737

NIBBLE Magazine
P.O. Box 325
Lincoln, Massachusettes 01773

Personal Computing
P.O. Box 2941
Boulder, Colorado 80231

Popular Computing
P.O. Box 307
Martinsville, New Jersey 08836

Pipeline*
Conduit
University of Iowa
Box 338
Iowa City, Iowa 52244

Recreational Computing
Department K5
Box E
Menlo Park, California 94025

Small Computers in Libraries*
Graduate Library School
University of Arizona
1515 E. First Street
Tucson, Arizona 85721

Softalk
11021 Magnolia Boulevard
North Hollywood, California 91601

Softside
Software Exchange
6 South Street
Milford, New Hampshire 03055

Software Review*
520 Riverside Avenue
Westport, Connecticut 06880

Teaching With Computers*
Scholastic, Inc.
902 Sylvan Avenue
Box 2001
Englewood Cliffs, New Jersey 07632

THE Journal*
Technological Horizons in Education
P.O. Box 364
Arlington, Massachusettes 02174

Wisconsin Center for Educational Research News*
1025 W. Johnson Street
Madison, Wisconsin 53706

80 Microcomputing
Subscription Department
P.O. Box 981
Farmingdale, New York 11737

# Online Databases

By adding a modem to your microcomputer you can access a number of computer-based information services. These services range from theater schedules in Dallas, Texas to classroom activity sheets. They all cost money to use but may be a worthwhile addition to your school library's capabilities. Below are listed just a few of the larger ones.

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Bibliographic Retrieval Services (BRS)
Education Service Group
1200 Route 7
Latham, New York 12110
[contains SPIF (School Practices Information File) and RICE (Resources in Computer Education)]

CompuServe Information Service
5000 Arlington Centre Boulevard
Columbus, Ohio 43220

Dataspan
c/o Karl Zinn
Center for Research on Learning and Training
109 E. Madison Street
Ann Arbor, Michigan 48104

Dialog Information Services
3460 Hillview Avenue
Palo Alto, California 94304
[contains ERIC (Educational Resources Information Center), ISD (International Software Database) and the Microcomputer Index (a review of more than 25 micro periodicals)]

Directory of Online Information Resources
CSG Press
11301 Rockville Pike
Kensington, MD 20895
(a guide to over 300 online databases, not online itself)

Handicapped Educational Exchange
11523 Charlton Drive.
Silver Spring, Maryland 20902

The Source
Reader's Digest, Educational Division
Pleasantville, New York 10570

SpecialNet
NASDSE
1201 16th Street, NW
Suite 610E
Washington, D.C. 20036

# Directories of Computer Resources

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Directory of Educational Computing Resources. Available from Intentional Educations, Inc., 341 Mt. Auburn Street, Watertown, Mass. 02172.

Part I - Sources: People, Places, and Things. - Software, associations, periodicals, funding, and miscellaneous.

Part II - Computer-Specific Resources - Apple, Atari, Commodore, Radio Shack, Sinclair, Texas Instruments, and other microcomputers; ten rules for evaluating computer systems.

Part III - Local and Regional Resources - Central Region, Eastern Region, Southern Region, Southwestern Region, Western Region, United Kingdom, and Canada.

Part IV Continuing Education - Places to go for additional training in using computers or teaching computing.

Part V. - Calendar - National conferences, regional conferences, and workshops.

Yellow Pages - As the name implies, a directory of vendors of computer education services.

Evaluation of Educational Software: A Guide to Guides. SEDL and NEREX, 1983. A comprehensive discussion of a number of evaluation philosophies and guides:

Microcomputer Directory: Applications in Educational Settings. Available from the Gutman Library, Harvard University Graduate School of Education, Appian Way, Cambridge Massachusettes 02138.

A sampling of how more than 1,000 teachers, administrators, and specialists are using microcomputers in nearly 1,200 schools in the United States. The information that is provided for each school includes how the micros are used, what kind(s), what software is involved, source of the funding, and the name of a contact person.

Microcomputer Index
Address: 2464 El Camino Real, Santa Clara, California 95051.

A quarterly publication containing articles from more than 20 computer-related publications in a subject-indexed collection.

# Index of Manufacturers

The following pages contain an extensive listing of manufacturers of both hardware and software. Catalogs may be obtained from most of these companies. Since the field is changing so rapidly, the list may not be fully complete or totally accurate. Of course, inclusion on the list does not imply an endorsement by the New Jersey State Department of Education, nor does not being on the list imply any criticism.

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AARDVARK SOFTWARE
P.O. Box 26505
Milwaukee, Wisconsin 52312
(414) 289-9988

ACADEMIC COMPUTING ASSOCIATION
P.O. Box 27561
Phoenix, Arizona 85061

ACRON SOFTWARE
635 Independence Avenue, S.E.
Washington, D.C. 20003
(202) 544-4259

ACTIVITY RESOURCES, INC.
P.O. Box 4875
Hayward, California 94540

ADDISON-WESLEY PUB., School Division
2725 Sand Hill Road
Menlo Park, California 90425
(415) 854-0300

ADVANCED OPER. SYSTEMS
450 St. John Road
Michigan City, Michigan 46360
(219) 879-4693

APPLECATIONS
1650 H. Eleven Mile Road, Suite 103
Southfield, Michigan 48706

APPLE COMPUTER, INC.
10260 Bandley Drive
Cupertino, California 95014
(212) 308-8500

APX SOFTWARE
P.O. Box 427
155 Moffett Park Drive
Sunnyvale, California 94086

AQUARIUS COMPUTING, INC. (TRS-80)
8 Yorktown Avenue
West Chester, Pennsylvania 19380

ASTRO-LEARN
P.O. Box 788
Lakewood, California 90713

ATARI, Inc.
1272 Borregas Avenue
Sunnyvale, California 94086
(408) 745-2000

AUTOMATED SIMULATIONS
1988 Leghorn Street
Mountain View, California 94943

AVANTE-GARDE CREATIONS
P.O. Box 30160
Eugene, Oregon 97403

B & B CONSULTANTS
946 Pomeroy Avenue
Santa Clara, California 95051

BAKER ROBERT
3245 Topp Court
Carmichael, California 95608

BARTON ENTERPRISES
1604 Marsh Lane
Carrollton, Texas 75006

BCD ASSOCIATES
1216 N. Blackwelder
Oklahoma City, Oklahoma 73106

BEAGLE BROS., MICRO SOFTWARE
4315 Sierra Vista
San Diego, California 92103
(714) 296-6400

BEHAVIORAL ENGINEERING
230 Mt. Hermon Road, #207
Scotts Valley, California 95066
(408) 438-5649

BELL & HOWELL MICROCOMPUTER SYSTEMS
Audio Visual Products
7100 N. McCormick Road
Chicago, Illinois 60645
(312) 673-3300

(continued)

BERTAMAX, INC.
101 Nickerson, #550
Seattle, Washington 98109

BLUEBIRDS, INC.
2267 - 23rd Street
Wyandotte, Michigan 48192

BLUE LAKES COMP.
3240 University Avenue
Madison, Wisconsin
(608) 233-6502

BORG-WARNER EDUC. SYSTEMS
600 West University Drive
Arlington Heights, Illinois 60004
(312) 394-1010

BPI SYSTEMS, INC.
1600 W. 38th Street #449
Austin, Texas 78731
(512) 454-2801

BRAIN BOX, THE COMPUTER TUTOR
601 West 26th Street
New York, New York 10001
(212) 989-3573

BRODERBUND SOFTWARE
Box 3266
Eugene, Oregon 97403
(503) 343-9024

WILLIAM C. BROWN COMPANY PUBLISHER
2460 Kerpen Boulevard
Dubque, Iowa 52001

CARTA ASSOCIATES, INC.
640 Lancaster Avenue
Frazer, Pennsylvania 19355

CAVRI SYSTEMS
26 Trumbull Street
New Haven, Connecticut 06511

CHARLES MANN & ASSOCIATES
MICRO Software Division
7594 San Remo Trail
Yucca Valley, California 92284

CHILDRENS TELEVISION
WORKSHOP
Computer Workshop
1 Lincoln Plaza
New York, New York 10023
(212) 595-3456

CLASSROOM COMPUTER NEWS
P.O. Box 226
Cambridge, Massachusetts 02138

COMPRESS INC.
P.O. Box 102
Wentworth, New Hampshire 03282
(603) 754-5831

COMPAK, INC.
P.O. Box 14582
Austin, Texas 78761

COMPUMAX
P.O. Box 1139
Palo Alto, California 94301
(415) 854-6700

COMPUTATIONS
P.O. Box 502
Troy, Missouri 48099

COMPUTER ADVANCED IDEAS
1442A Walnut Street #341
Berkeley, California 94709
(415) 525-9100

COMPUTER ASSISTED INSTR. INC
6115 28th Street S.E.
Grand Rapids, Missouri 49506
(616) 942-2892

COMPUTER USING EDUCATORS (CUE)
Independence High School
1776 Education Park Drive
San Jose, California 95133

COMPUTERWARE
15112 Encinitas Boulevard
Encinitas, California 92024

(continued)

CONDUIT
P.O. Box 388
Iowa City, Iowa 52244

CONVERGENT SYSTEMS
245 E. 6th Street
St. Paul, Minnesota 55101
(612) 221-0587

COOK'S COMPUTER COMPANY
1905 Bailey Drive
Marshalltown, Iowa 50185

COURSEWARE MAGAZINE
4919 N. Millbrook #222
Fresno, California 93726

COVE VIEW PRESS: SOFTWARE
Box 637
Garberville, California 95440

CREATIVE COMPUTING
39 E. Hanover Avenue
Morris Plains, New Jersey 07950

CREATIVE PUBLICATIONS
P.O. Box 10238
Palo Alto, California 94303
(415) 968-1101

CROSS EDUCATIONAL SOFTWARE
P.O. Box 1536
Auston, Louisiana 71270
(318) 255-0587

CYBERTRONICS, INC.
903 Park Avenue
New York, New York 10021
(212) 772-9585

DR. DALEY
425 Grove Avenue
Berrien Spring, Michigan 49103
(616) 471-5514

DATA COMMAND
P.O. Box 548
Kankakee, Illinois 50901
(515) 933-7735

A. DOUGLAS DAVIS
1799 Meadowlake Drive
Charleston, Illinois 61920
(217) 345-4753

D.C. HAYES ASSOCIATES
10 Perimeter Park Drive
Atlanta, Georgia 30341
(404) 455--7663

DEVELOPMENTAL LEARNING MATERIALS
One DLM Park
P.O. Box 4000
Allen, Texas 75002
(800) 527-4747

DILTHIUM PRESS
30 NW 23rd Place
Beaverton, Oregon 97005
(502) 646-2713

DISNEY ELECTRONICS
6153 Fairmount Avenue
San Diego, California 92120
(714) 281-0285

DORSETT EDUCATIONAL SYSTEMS
P.O. Box 1226
Norman, Oklahoma 73070
(405) 321-000

DYNACOMP INC.
1427 MONROE AVE.
Rochester, New York 14618
(716) 442-8960

GEORGE EARL
1302 S. Gen McMullen
San Antonio, Texas 78237

ECONICS, INC.
200 Cruz Alta
Taos, New Mexico 87571
(505) 758-1696

EDUCATORS, INC.
38 Main Street
Hudson, Massachusetts 01749
(617) 562-6222

(continued)

EDUCATIONAL ACTIVITIES
P.O. Box 392
Freeport, New York 11520
(516) 223-4666

EDUCATIONAL AUDIO VISUAL
Pleasantville, New York 10570
(914) 769-6332

EDUCATIONAL COURSEWARE
10 Bay Street Dept. 66
Westport, Connecticut 06880
(203) 227-1438

EDUCATIONAL DEVELOPMENT CORP.
P.O. Box 45663
Tulsa, Oklahoma 74145
(918) 622-4522

EDUCATIONAL MATERIALS & EQUIPMENT CO.
P.O. Box 17
Pelham, New York 10803
(914) 576-1121

EDUCATIONAL SERVICES MANAGEMENT CORP.
P.O. Box 12599
Research Triangle Park
North Carolina 27709
(919) 781-1500

EDUCATIONAL SOFTWARE ASSOCIATION
6202 Genes Street
Oakland, California 94608

EDUCATIONAL SOFTWARE & MARKETING COMPANY
1035 Outer Park Drive, Suite 309
Springfield, Illinois 62704
(217) 787 4594

EDUCATIONAL COMPUTING SYSTEMS
106 Fairbanks Road
Oak Ridge, Tennessee 37830
(615) 483-4915

EDUCATION SOFTWARE MIDWEST
414 Rosemere Lane
Maquoketa, Iowa 52060
(319) 652-2334

EDUCULTURE (INTERACTIVE LEARNING SYSTEMS)
1 Dubuque Plaza, Suite 150
Dubuque, Iowa 52001
(800) 533-4858

ENDUSET/EDUCOM
Box 364
Princeton, New Jersey 08540
(609) 257-9505

EDU-SOFT
1639 Spruce Street
Philadelphia, Pennsylvania 19139
(215) 747-1284

EDUTECH
50 Putnam Street
W. Newton, Massachusetts 02165

EDUWARE
22035 Burbank Boulevard
Woodland Hills, California 91367
(213) 346-6783

EDU-WARE
22222 Sherman Way
Canoga Park, California 91303

ELECTRONIC COURSEWARE SYSTEMS
P.O. Box 2374 Station A
Champaign, Illinois 61820
(217) 359-7099

ENCYCLOPEDIA BRITANNICA EDUCATIONAL CORP.
425 North Michigan Avenue
Chicago, Illinois 60611
(312) 321-7330

EYE GATE MEDIA
146-01 Archer
Jamaica, New York 11435
(212) 291--9100

EDUCAT PUBLISHERS, INC.
P.O. Box 2158
Berkeley, California 94702
(415) 548-2304

(continued)

HARCOURT, BRACE JOVANOVICH
The Psychological Corp.
757 3rd Avenue
New York, New York 10017
(212) 888-4444

HARPER & ROW
10 E. 53rd Street
New York, New York 10022
(212) 593-7000

HAYDEN BOOK CO.
50 Essex Street
Rochelle Park, New Jersey 07662
(201) 843-0550

HEATH COMPANY
Education Division
Benton Harbor, Michigan
(616) 982-3200

HEURISTICS
1285 Hammerwood Avenue
Sunnyvale, California 94086
(408) 734-8532

HIGH TECHNOLOGY, INC.
Software Department
P.O. Box S-14665
Oklahoma City, Oklahoma 73113
(405) 840-9900

HOLT, RINEHART & WINSTON PUBLISHERS
School Marketing Department
383 Madison Avenue
New York, New York 10017
(212) 872-2000

HUNTINGTON COMPUTING
2020 Charles Street
Corcoran, California 93212

IDEATECH
P.O. BOX 62451
Sunnyvale, California 94088

INSTANT SOFTWARE
701 S. 22nd Street
Omaha, Nebraska 68102

INSTANT SOFTWARE
80 Pine Street
Peterborough, New Hampshire 03458
(603) 924-7296

INSTRUCTIONAL/COMMUNICATIONS
TECHNOLOGY INC. (I/CT)
10 Stephar Place
Huntington Sta., New York 11746
(516) 549-3000

INSTRUCTIONAL DEVELOPMENT SYSTEMS
2927 Virginia Beach
Virginia Beach, Virginia 23452

INSTRUCTIONAL SYSTEMS, INC.
560 Sylvan Avenue
Englewood Cliffs, NJ 07632
(201) 569-7180

INTERACTIVE EDUCATION
Department 16D
2306 Winters Drive
Kalamazoo, Michigan 49002
(616) 345-2941

INTERACTIVE MICROWARE, INC.
P.O. Box 771
State College, Penna. 16801

INTERPRETIVE EDUCATION
Allen Kemerer
2306 Winters Drive
Kalamazoo, Michigan 49002

J/C ENTERPRISES
Box 441186
Miami, Florida 33144

J & S SOFTWARE
140 Beid Avenue
Post Washington, Montana 11050

JEM RESEARCH
Discovery Park, P.O. Box 1700
University of Victoria
B.C. Canada V8W 2Y2
(604) 477-7246

JENSEN SOFTWARE
1589 Blossom Park
Lakewood, Ohio 44107

J. L. HAMMETT COMPANY INC.
Hammett Place, P.O. Box 545
Braintree, Massachusetts 02184

(continued)

JMH SOFTWARE
4850 Wellington Lane
Minneapolis, Minnesota

K-12 MICROMEDIA
P.O. Box 17
Valley Cottage, New York 10989
(914) 358-2582

KRELL SOFTWARE
21 Millbrook Drive
Stony Brook, New York 11790
(516) 751-5139

KYDE TYME PROJECT
Ted Perry
2331 St. Marks Way
Sacramento, California 95825

LEARNING TOOLS INC.
686 Massachusetts Avenue
Cambridge, Massachusetts 02139
(617) 451-2636

MAD HATTER SOFTWARE
900 Salem Road
Cracat, Massachusetts 01826

MALIBU MICROCOMPUTING
23910A De Ville Way
Malibu, California 90265
(213) 456-1137

MATH SOFTWARE
1233 Blackhorn Place
Deerfield, Illinois 60015

MATHWARE
Math City
4040 Palos Verdes Drive No.
Rolling Hills Estates, CA 90274
(213) 541-3377

MCGRAW HILL
School Division
1221 Avenue of the Americas
New York, New York 10020
(212) 997-2175

MD FULLMER & ASSOCIATES
115 Via Jose
San Jose, California

MICROCOMPUTER WORKSHOPS
103 Puritan Drive
Port Chester, New York
(914) 937-5440

MICRO-ED, INC.
Box 24156
Minneapolis, Minnesota 55424
(612) 926-2292

MICROGNOME
Fireside Computing, Inc.
5843 Montgomery Road
Elkridge, Maryland 21227

MICROLAB
2310 Skokie Valley Road
Highland Park, Illinois 60035

MICROMATICS
29E. 1800 So.
Bountiful, Utah 84010
(801) 292-6574

MICROPHYS PROGRAM
2048 Ford Street
Brooklyn, New York 11229
(212) 648-0140

MICROPI
George Gerhold
2445 North Nugent
Lummi Island, Washington 98262

MICRO POWER & LIGHT CO.
1108 Keystone, Dept. A
13773 N. Central Expressway
Dallas, Texas 75243

MICRO SCHOOL PROGRAMS
c/o Bertamak, Inc.
101 Nickerson Suite 550
Seattle, Washington 98109
(206) 282-6249

(continued)

MICROSOFT CONSUMER PROD.
400 108th Avenue N.E.
Bellevue, Washington 98004
(206) 454-1315

MICROSYSTEM 80
Borg-Warner Educational Systems
600 West University Drive
Arlington Heights, Illinois 60004

MICRO USERS SOFTWARE EXCHANGE
330 N. Charles Street
Baltimore, Maryland 21201

MIDWEST VISUAL EQUIPMENT
6500 N. Hamlin Avenue
Chicago, Illinois 60645

MILLIKEN PUBLISHING COMPANY
1100 Research Boulevard
St. Louis, Missouri 63132
(314) 991-4220

MILTON BRADLEY
Education Division
443 Shaker Road
East Longmeadow, Massachusetts 01028
(413) 525-6411

MINNESOTA CURRICULUM SERVICE CENTER
3554 White Bear Avenue
White Bear Lake, Minnesota 55110

MINNESOTA EDUCATIONAL COMPUTING CONSORTIUM
Distribution Center
3490 Lexington Ave., North
St. Paul, MN 55112
(612) 638-0627

MINNESOTA SOFTWARE
5422 Fisher Street
White Bear Lake, Minnesota

MOUNTAIN COMPUTER
300 Harvey West
Santa Cruz, California 95060
(408) 429-8600

MUSE SOFTWARE
330 N. Charles Street
Baltimore, Maryland 21201
(301) 659-7212

OPPORTUNITIES FOR LEARNING, INC.
8950 Lurline Avenue, Dept. L5
Chatsworth, California 91311
(213) 341-2535

PERSONAL SOFTWARE, INC.
VISICORP
2895 Zanker Road
San Jose, California 95134

PHOENIX SOFTWARE
64 Lake Zurich Drive
Lake Zurich, Illinois 60047
(312) 438--4850

POWERSOFT
P.O. Box 157
Pitman, New Jersey 08071
(609) 589-5500

PRENTICE HALL
College Division
Englewood Cliffs, NJ 07632
(201) 592-2000

PRISM
Psycological Corporation
757 Third Avenue
New York, New York 10017

PROGRAM DESIGN INC.
71 Ider Court
Greenwich, Connecticut 06830
(203) 661-8799

PROGRAMA INTERNATIONAL
2908 N. Naomi Street
Burbank, California 91504
(213) 954-0240

PROGRAMS FOR LEARNING
P.O. Box 954
New Milford, Connecticut 06776

THE PSYCHOLOGICAL CORP.
757 Third Avenue
New York, New York 10017
(212) 838-3500

(continued)

QUALITY EDUCATIONAL DESIGNS
2924 N.E. Stanton
Portland, Oregon 97212
(503) 287-8137

RANDOM HOUSE
School Division
201 E. 50th Street
New York, New York 10022

READER'S DIGEST CORP.
Educational Division
Pleasantville, New York 10570

RESOURCE CENTER MEDIA COMPANY
121 East 94 1/2 Street
Bloomington, Minnesota 55420
(612) 881-4472

SCHOLASTIC
30 W. 44th Street
New York, New York 10036
(212) 944-7700

SCHOOL MICROWARE
Fresden Associates
P.O. Box 246
Dresden, Maine 04342

SCIENCE RESEARCH ASSOCIATES, INC.
155 North Wacker Drive
Chicago, Illinois 60606

SCIENCE SOFTWARE SYSTEMS, INC.
11899 West Pico Boulevard
West Los Angleles, California 90064
(213) 477-8541

SCOTT FORESMAN
Electronic Pub.
1900 E. Lake Avenue
Glenview, Illinois 60025

SENSIBLE SOFTWARE
6619 Perham Drive
West Bloomfield, Michigan 49033

SERENDIPITY SYSTEMS
225 Elmira Road
Ithaca, New York 14850
(607) 277-4889

SHOESTRING SOFTWARE
1235 Candlelight
Houston, Texas

SIMTEX, INC.
P.O. Box 109
Cambridge, Massachusetts 02139

SIRIUS SOFTWARE
1537 Howe Avenue #106
Sacramento, California 95825

SOCIETY FOR VISUAL EDUCATION
1345 Diversey Parkway
Chicago, Illinois 60614

SOFTAGON
P.O. Box 774M
Morristown, New Jersey 07960

SOFTAPE
10432 Burbank Boulevard
N. Hollywood, California 91601
(213) 985-5763

SOFTWARE EXCHANGE
6 South Street, Box 68
Milford, New Hampshire 03055

SOFTWARE FACTORY (MENTOR)
P.O. Box 791
Anoka, Minnesota 55303

SOUTH-WESTERN PUBLISHING
5101 Madison Road
Cincinnati, Ohio 45227
(513) 271-8811

SOUTHWESTERN DATA SYSTEMS
P.O. Box 582
Santee, California 92071

SPEAK EASY SOFTWARE, LTD.
Box 1220
Kemptville, Ontario
CANADA, KOG 1JO

SPECTRUM SOFTWARE
142 Carlow
P.O. Box 2084
Sunnyvale, California 94087
(408) 738-4387

(continued)

STERLING SWIFT PUBLISHING CO.
1600 Fortview Road
Austin, Texas 78704
(512) 444-7570

STONEWARE MICROCOMPUTER PRODUCTS
San Rafael, California 94901
(415) 454-6500

STRATEGIC SIMULATIONS, INC.
465 Fairchild Drive, Suite 108
Mountainview, California 94043
(415) 964-1353

STRICTLY SOFTWARE
16720 Hawthorne Boulevard
Lawndale, California 90260

SUB LOGIC
P.O. Box V
Savoy, Illinois 61874

SUBLOGIC COMMUNICATIONS CORP.
713 Edgebrook Drive
Champaign, Illinois 61820
(217) 359-8482

SUNBURST COMMUNICATIONS
39 Washington Avenue
Pleasantville, New York 14850
(800) 431-1934

SYNERGISTIC SOFTWARE
5221 - 120th Avenue S.E.
Bellevue, Washington 98006

TANDY CORPORATION
One Tandy Center
Forth Worth, Texas 76102

TEACHING TOOLS: MICROCOMPUTER SERVICES
P.O. Box 50065
Palo Alto, California 94303
(415) 493-3477

TEACH YOURSELF BY COMPUTER (TYC)
40 Stuyvesant Manor
Geneso, New York 14454

TECK ASSOCIATES
P.O. Box 8732
White Bear Lake, Minnesota 55110
(612) 739-4939

TELE-TERMINALS
7216 Boone Avenue
Brooklyn Park, Minnesota 55428
(612) 535-6330

TERRAPIN INC.
678 Massachusetts Avenue, #205
Boston, Massachusetts 02139
(617) 492-8816

TEXAS INSTRUMENTS, INC.
P.O. Box 10508
Lubbock, Texas 79408

T.H.E.S.I.S.
P.O. Box 147
Garden City, Michigan 48141

TRANS-DATA CORP.
161 Almeria Avenue
Coral Gables, Florida 33134

UNIVERSITY OF MICHIGAN
Center for Research on Learning & Teaching
Karl L. Zinn
109 E. Madison Street
Ann Arbor, Michigan 48104

WEBSTER
EDL Division
1221 Avenue of the Americas
New York, New York 10020

WELDRON ELECTRONICS
14010 23rd Avenue No.
Plymouth, Minnesota 55441

WESTINGHOUSE LEARNING COMPANY
11000 S. Lavergne
Oak Lawn, Illinois 60453

WHITNEY EDUCATION SERVICES
2071 10th Avenue
San Francisco, California 94116

(continued)

WILLIAMSVILLE PUBLISHING CO.
P.O. Box 250
Fredonia, New York 14063

WISE OWL WORKSHOP
1168 Avenida de Las Palms
Livermore, California 94550
(415) 443-6248

ZWEIG ASSOCIATES
1711 McGraw Avenue
Irvine, California 92714
(714) 549-3246

# State Contract Vendors

The section lists the names of the vendors that have been awarded State contracts for microcomputing equipment, and the prices that represent their winning bids. Since things change rapidly contact the vendor for the latest information. We will keep you updated on changes through the newsletter.

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AWARD SUMMARY

The following awards have been made:

| GROUP | PRODUCT | VENDOR | BID PRICE |
|---|---|---|---|
| 1 | CBM-64 | Harry Straus | $ 503.49 |
| | *Atari-800 | Wolsten's | $ 542.00 |
| | *Atari-800 | Atari Inc. | $ 580.76 |
| | TRS80-III | Radio Shack | $ 799.20 |
| | Apple IIe | Clancy Paul | $ 1,096.00 |
| | **Apple IIe | Prodigy | (Secondary award for associated products only.) |
| 2 | Osborne I | Prodigy | $ 1,514.00 |
| | Digital 100 | Computerland | $ 2,812.50 |
| | IBM-PC | Prodigy | $ 2,914.00 |
| | ***Franklin 1000 | Wolsten's | $ 1,705.60 |
| | ***Franklin 1100 | Prodigy | $ 2,132.00 |
| 3 | Xerox 820 II | Xerox | $ 4,493.00 |
| | IMS-8000 | Prodigy | $ 4,878.00 |
| | Altos ACS8000 | Artisan | $ 4,930.00 |
| | Quay 900 | Quay | $ 5,690.00 |
| ***4 | Altos 8000-12 | Artisan | $ 7,890.00 |
| | Quay 935 | Quay | $10,590.00 |
| 5 | Peripherals to all of the above, except for Printers and Local Area Networks (LAN's) as follows: (See Attached) | | |
| Printers, DOT 30 CPS | Silentype | Clancy-Paul | $ 325.00 |
| | Okidata ML80 | Prodigy | $ 356.00 |
| Printer, DOT 80 CPS | 26-1253 | Radio Shack | $ 319.20 |
| | Okidata ML82A | Prodigy | $ 437.00 |
| | Epson MX80 | Prodigy | $ 497.00 |
| | Apple | Clancy-Paul | $ 578.00 |
| | Espon FX80 | Prodigy | $ 614.00 |
| | Epson MX100 | Prodigy | $ 747.00 |

AWARD SUMMARY (continued)

The following awards have been made:

| | | | |
|---|---|---|---|
| Printer, DOT 120 CPS | 26-1254 | Radio Shack | $ 639.20 |
| | Okidata 83A | Prodigy | $ 718.00 |
| | Okidata ML84-P | Prodigy | $ 1,069.00 |
| | Okidata ML84-S | Prodigy | $ 1,169.00 |
| Printer, Daisy 10 | SC-TP-1 | Prodigy | $ 670.00 |
| Printer, Daisy 30 | 26-1250 | Radio Shack | $ 1,196.00 |
| | Daisywriter | Clancy-Paul | $ 1,275.00 |
| Printer, Daisy 40 | Transtar 140 | Prodigy | $ 1,411.00 |
| | 26-1250 | Radio Shack | $ 1,596.00 |
| | C. Itoh F-10 | Clancy-Paul | $ 1,669.00 |

Group 5 - Peripherals

a) Award to all vendors awarded in groups 1-4 except printers and local area networks (LAN).

b) Printers - Award to the three major vendors in groups 1-4 as previously defined.

c) LAN (local area networks) Award to Wolsten's Projector House for their SCDI-OS and NET/216 to be available for the Atari 800 Systems.

To Prodigy for their ROS network for use with IBM and Apple Systems.

To computerland for the Corvus Omninet Network. This award is for the complete line of Corvus Systems products bid by Computerland of Cherry Hill, New Jersey.

d) Security - Since many vendors bid security devices for specific systems, the committee recommends a single award to Business Machine Security Inc. for their "Anchor Pad" Security device. "Anchor Pad" can be universally used for virtually all microcomputer systems, as well as other miscellaneous office equipment.

| | | | |
|---|---|---|---|
| *****Lan | 26-1211 | Radio Shack | $ 399.20 |
| | WCDI-QS | Wolsten's | $ 595.00 |
| | NET/216 | Wolsten's | $ 1,999.95 |
| | ROS | Prodigy | $ 640.00 |
| | Corvus Omni Net | Computerland | See Catalog |
| Security | Anchor Pad | BMS Inc. | See Catalog |

Group 6 Software - To all of the vendors and products awarded in groups 1-4.

*NOTES: Dual Award: In Group One to Wolsten's Projection House for the 16k Atari 800 with Monitor. (Note: This price of $542 includes a 20% discount if paid in 15 days from acceptance. Otherwise the price is $677.50). All other Atari 800 configurations are to be purchased from Atari.

THE FOLLOWING VENDORS HAVE BEEN AWARDED MICROCOMPUTER CONTRACTS:

| VENDOR | VENDOR CONTACT & PHONE # | FID# & TERMS | CONTRACT |
|---|---|---|---|
| Artisan Software<br>P.O. Box 426<br>Colts Neck, NJ 07722 | Richard P. Traintor<br>201-780-6767 | V222383054<br>2% 30 days | A40280 |
| *Atari Inc.<br>Box 50047<br>San Jose, CA 95190<br>Attn: Bill Moses | Ron Hill<br>516-433-5700, or<br>Jessica Prince<br>409-942-3577 | V132869600<br>Net | A40274 |
| Business Machine Security<br>2 University Plaza<br>Suite 610<br>Hackensack, NJ 07601 | Alan H. Knoller<br>201-342-5269 | V222361891<br>Net | A40282 |
| Clancy-Paul<br>Princeton Shopping Center<br>No. Harrison Street<br>Princeton, NJ 08540 | Glenn Paul<br>609-683-0600 | V222376881<br>2% 15 dyas | A40276 |
| Computerland of Cherry Hill<br>Shopper Lane Plaza<br>2076 East Route 70<br>Cherry Hill, NJ 08003 | John Newcomb<br>609-424-8100 | V222197676<br>Net | A40278 |
| Harry Strauss & Sons Inc.<br>429 Jersey Avenue<br>New Brunswick, NJ 08903<br>or<br>104 Nassau Street<br>Princeton, NJ 08540 | Rob Brown<br>201-249-504<br>Ext 289<br><br>Bill Mitchell<br>609-924-2330 | V221722432<br>Net | A40272 |
| Prodigy Computer Center<br>497 Lincoln Highway<br>Iselin, NJ 08830 | Eri Golembo or<br>Paula Sachs<br>201-283-0600<br>A list of representatives to contact for each of their four stores will be forwarded shortly. | V222252703<br>25 30 days | A40277 |
| Quay Corporation<br>P.O. Box 783<br>Eatontown, NJ 07724 | George D. Roessler<br>201-542-7340 | V222109913<br>Net | A40281 |
| Radio Shack National Bid<br>1400 One Tandy Center<br>Forth Worth, Texas 76102 | Kelly F. Payune<br>817-390-3258 | V751047710 | A40275 |
| Wolsten's Projector House Inc.<br>99 Washington Steet & Park Avenue<br>E. Orange, NJ 07017 | Ron Wolsten<br>201-678-0008 | V221758664<br>20% 15 days | A40273 |

THE FOLLOWING VENDORS HAVE BEEN AWARDED MICROCOMPUTER CONTRACTS:

| VENDOR | VENDOR CONTACT & PHONE # | FID# & TERMS | CONTRACT # |
|---|---|---|---|
| Xerox Corporation<br>Forrestal Center<br>One Research way<br>Princeton, NJ 08540 | William J. Underwood<br>201-455-1000 | V160468020<br>Net | A40279 |

*NOTE: A list of authorized dealers will be forwarded shortly. Send the orders directly to Atari for the present time.

1. Awards against these annual contracts can be acquired via PB-3's as per joint Circular Letter 83.22 (copy attached). Annual contract authorization documents (PB-3's) shall be forwarded directly to the Bureau of Accounting. You are to use a procurement code of 3--2 (contract procurement).

2. Upon this approval, agencies will then proceed to issue agency purchase orders (Form PB-2) directly to DP & TC for review with the appropriate type and level of justification, as required by DP & TC, as previously submitted under the Form PB-6 procedure. This is in accordance with Procurement Circular 36.

3. After review by DP & TC all approved Pb-2's will be submitted by them directly to vendors and all disapproved PB-2's will be returned to the agency for cancellation.

4. Regardless of the disposition, copies ofthe PB-2 will be sent to the agency and the Purchase Bureau for post-audit.

5. Attached are the award summary sheets. Also attached are the individual price schedules for groups one to four.

6. PLEASE NOTE: There will shortly be addendum(s) issued 1) Adding additional items to the contract, 2) Reducing the prices of some of the models, 3) Substitution of some of the models which will shortly be going out of production.

7. All software and peripherals (other then printers and local area networks) which are associated products can be bought from the vendors receiving the microcomputer awards. For example, software related to the IBM PC is to be purchased from Prodigy Computer Centers which is being awarded the IBM PC contract. These items are listed in the vendors catalog. You can either:

    A. Obtain the catalogs from the vendors.
    B. Call the Bureau of Data Processing Management and reference their copies
    C. Call the Purchase Bureau and reference their copies.

8. There are varying discounts off vendors catalogs which can be obtained from the vendor and verified with DP & TC or the Purchase Bureau.

9. All Wolsten's prices listed on the attached summary page reflect the 20% 15 days cash discount. When preparing your orders, list the net prices which are listed on the attached individual price sheets. Indicate the 20% 15 days, net 16 in the appropriate cash discount box. NOTE: Since this 20% cash discount was a determining factor in their contract award, all Wolsten's invoices must be paid within 15 days of receipt and acceptance of the equipment.

10. In Group I, Prodigy has been awarded a dual award for Apple IIe for associated products only. Prodigy is to be used only if Clancy Paul cannot provide the software or peripherals desired by the Agency. The Apple IIe Microcomputer is to be purchased only from Clancy Paul.

11. In Group II, a dual award has been granted to Wolsten's for the Franklin 1000, and Prodigy for the Franklin 1100. Wolston's is to be used to acquire the 64K Franklin 1000 System. Prodigy is to be used to acquire the 128k Franklin 1100 System.

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The literature on computers and their educational applications is voluminous. The following is a representative sample of the kinds of material available to the interested educator. Please let us know of books or articles that you find particularly useful which we have not included. We will continually update this bibliography through our newsletter.

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